

INSTALLATION OF SELF CONTAINED BREATHING APPARATUS (SCBA)



INSTALLATION SUMMARY

- SHIPALT for HP Air Modifications
 - Installation of piping and labels
 - **Tie-In between ship's HP Air System and HPFA**
 - **Additional capacity (air flasks) for amphibious class**
 - Installation of additional sound-powered phone circuits and/or lighting
 - Installation of BACS (HPFA and ABPA)
 - Inspection, NDT and mapping of all welds in accordance with NAVSEA T9074-AS-G1B-010/271
 - Hydrostatic testing in accordance with GSO Section 551y
 - Flushing and cleaning in accordance with MIL-STD-1622
 - Air sampling and certification per ANSI/CGA G7.1-1997 meeting Grade D requirements
- SHIPALT for SCBA and Locker Installation
 - Ripout, relocation and removal of OBA's, canisters and stowages
 - Installation of SCBA stowages and loadout of apparatus/cylinders

INSTALLATION TIMEFRAME

SHIP CLASS	SHIPALT FOR HP AIR MODIFICATION	SHIPALT FOR SCBA/LOCKER INSTALLATION
CG-47	2 WEEKS	3 WEEKS
DDG-51	3 WEEKS	3 WEEKS
LSD-41	5 WEEKS	4 WEEKS
LHA-1	5 WEEKS	7 WEEKS
LPD	10 WEEKS	5 WEEKS
CV/CVN	7 WEEKS	9 WEEKS
FFG-7	3 WEEKS	3 WEEKS
ARS-50	2 WEEKS	2 WEEKS
LHD-1	4 WEEKS	5 WEEKS
AS-39	5 WEEKS	4 WEEKS
LCC-19	5 WEEKS	4 WEEKS
MCM	2 WEEKS	
SSN	3 WEEKS	

- Installation of each SHIPALT can be performed independently of the other; thus

EQUIPMENT INSTALLED

- HP air piping and valve branch connections
- HP air line system pressure gauges
- Breathing Air Charging Station
 - High Pressure Filter Assembly (HPFA)
 - Air Booster Pump Assembly (ABPA)
 - Charging Wand Assembly
- Stowage locations for booster pumps and pelican cases
- SCBA Stowages
 - SCBA Lockers
 - SCBA Bags
- SCBA's and Cylinders
- Diesel-Driven Air Compressors
 - Stowage locations
 - Weather proof enclosure
- Breathing Air Test Kit
- Breathing Air Reducing Station (BARS)

SCBA INSTALLATION PROGRAM

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SHIP CONFIGURATION

SHIP CLASS	SCBA APPARATUS	CYLINDERS		DIESEL DRIVEN AIR COMPRESSOR	BREATHING AIR CHARGING SYSTEM	AIR POWERED BOOSTER PUMPS	BREATHING AIR REDUCING STATIONS
		30-min	45-min				
CG-47	55	98	98	3	3	2	1
CV-63,64,67	382	746	364	2	8	4	2
CVN-65	382	746	364	2	2	4	2
8803K	90		90				
CVN-68	382	746	364	2	8	4	2
8803K	56		56				
DDG-51	73	98	98	3	3	2	1
LHA-1	144	273	273	6	5	3	2
LHD-1	278	278	278	6	5	3	2
LSD-41	95	183	183	3	3	2	1
FFG-7	55	98	98	3	3	2	1
ARS-50	31	39	39	1	2	2	1
LPD-4	73	183	183	3	3	N/A	1
MCM-1	25	71	0	(1 - electric compressor)	0	0	1
LCC-19	91	183	273	3	3	2	1
AS-39	61	183	98	3	3	2	1

SUBMARINE CONFIGURATION

SHIP CLASS	SCBA APPARATUS	CYLINDERS		BREATHING AIR CHARGING SYSTEM	STORED CAPACITY [CUBIC FEET / MAN HOUR]
		30-min	45-min		
SSN-688	14	14	-	2	1260 ft ³ / 11 mhr
SSN21-22	14	14	-	2	1260 ft ³ / 11 mhr
SSN-23	16	16	-	3	1440 ft ³ / 12.57 mhr
SSBN-726	20	20	-	3	1800 ft ³ / 15.8 mhr
SSGN	20	20	-	2	1800 ft ³ / 15.8 mhr
SSN774	14	14	-	2	1260 ft ³ / 11 mhr

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Completed & Planned SCBA Installations FY01-FY07

SHIP CLASS	FY01 & PRIOR	FY02	FY03	FY04	FY05	FY06	FY07
CG-47	8	10	3	1	1	1	-
DDG-51	12	4	3	2	-	-	-
LHA-1	1	2	2	-	-	-	-
LHD-1/5	-	-	1	1	1	2	-
LSD-41/49	4	-	-	-	4	3	-
CV/CVN	2	1	2	1	-	-	-
FFG-7	-	-	1	4	10	10	5
MCM-1	-	-	-	-	-	8	6
MHC-51	-	-	-	-	-	-	-
ARS-50	-	-	2	2	-	-	-
AS-39	-	-	-	-	-	-	2
LCC-19	-	-	-	-	-	1	-
LPD-4	-	-	1	3	1	1	-

PLANNED INSTALLATIONS FY06

- **TICONDEROGA CLASS**
 - CG-56, USS San Jacinto (NorVa) 4/19/06 - 10/11/06
- **OLIVER HAZARD PERRY CLASS**
 - FFG-33, USS Jarrett (San Diego) 6/28/06 - 9/6/06
 - FFG-39, USS Doyle (May) 1/9/06 - 4/21/06
 - FFG-40, USS Halyburton (May) 11/20/05 - 1/22/06
 - FFG-41, USS McClusky (San Diego) 8/09/06 - 10/11/06
 - FFG-42, USS Klakring (May) 7/26/06 - 9/29/06
 - FFG-46, USS Rentz (San Diego) 1/11/06 - 5/31/06
 - FFG-49, USS Robert G. Bradley (May) 11/30/05 - 3/17/06
 - FFG-51, USS Gary (Yoko) 8/16/06 - 10/18/06
 - FFG-53, USS Hawes (Norfolk) 5/03/06 - 7/26/06
 - FFG-60, USS Rodney M. Davis (Everett) 1/11/06 - 3/13/06
- **BLUE RIGE CLASS**
 - LCC-19, USS Blue Ridge (Yoko) 9/11/06 - 11/17/06
- **WASP CLASS**
 - LHD-4, USS Boxer (San Diego) - 3/25/06 - 6/30/06
 - LHD-5, USS Bataan (Norfolk) 1/23-2/10; 3/20-4/10; 7/10-8/11/06
- **WHIDBEY ISLAND CLASS**
 - LSD-43, USS Fort McHenry (Little Creek) 8/30 - 11/1/06
- **HARPERS FERRY CLASS**
 - LSD-50, USS Carter Hall (NorVa) 9/6/06 - 11/8/06
 - LSD-52, USS Pearl Harbor (SDGO) 4/5/06 - 7/18/06
- **AVENGER CLASS**
 - MCM-3, USS Sentry (Ingleside) 10/12/05-12/14/05
 - MCM-5, USS Guardian (Sasebo) 5/3/06-7/26/06
 - MCM-6 USS Devastator (Ingleside) 3/6/06 - 3/21/06
 - MCM-7, USS Patriot (Sasebo) 7/27/06-8/11/06
 - MCM-8, USS Scout (Ingleside) 1/18/06-3/22/06
 - MCM-10, USS Warrior (Ingleside) 4/26/06 - 6/28/06
 - MCM-11, USS Gladiator (Ingleside) 7/12/06-9/13/06
 - MCM-14, USS Chief (Ingleside) 9/27/06 - 11/29/06

Blue indicates ongoing installation

Green indicates completed installation



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SSN 688 CLASS with SCBA

• LOS ANGELES CLASS

- | | | |
|------------------------------------|------------------------------|---------------------------|
| -SSN-688, USS Los Angeles | -SSN-720, USS Pittsburg | -SSN-762, USS Columbus |
| -SSN-690, USS Philadelphia | -SSN-721, USS Chicago | -SSN-763, USS Santa Fe |
| -SSN-691, USS Memphis | -SSN-722, USS Key West | -SSN-764, USS Boise |
| -SSN-699, USS Jacksonville | -SSN-723, USS Oklahoma City | -SSN-765, USS Montpelier |
| -SSN-700, USS Dallas | -SSN-724, USS Louisville | -SSN-766, USS Charlotte |
| -SSN-701, USS LaJolla | -SSN-725, USS Helena | -SSN-767, USS Hampton |
| -SSN-705, USS Corpus Christi | -SSN-750, USS Newport News | -SSN-768, USS Hartford |
| -SSN-706, USS Albuquerque | -SSN-751, USS San Juan | -SSN-769, USS Toledo |
| -SSN-708, USS Minneapolis St. Paul | -SSN-752, USS Pasadena | -SSN-770, USS Tuscan |
| -SSN-709, USS H.G.Rickover | -SSN-754, USS Topeka | -SSN-771, USS Columbia |
| -SSN-710, USS Augusta | -SSN-753, USS Albany | -SSN-772, USS Greeneville |
| -SSN-711, USS San Francisco | -SSN-755, USS Miami | -SSN-773, USS Cheyenne |
| -SSN-713, USS Houston | -SSN-756, USS Scranton | |
| -SSN-714, USS Norfolk | -SSN-757, USS Alexandria | |
| -SSN-715, USS Buffalo | -SSN-758, USS Asheville | |
| -SSN-717, USS Olympia | -SSN-759, USS Jefferson City | |
| -SSN-718, USS Honolulu | -SSN-760, USS Annapolis | |
| -SSN-719, USS Providence | | |

SCBA INSTALLATION PROGRAM

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ATLANTIC FLEET SURFACE COMBATANTS with SCBA

• **TICONDEROGA CLASS**

- CG-48, USS Yorktown (PASC)
- CG-55, USS Leyte Gulf (NORVA)
- CG-58, USS Philippine Sea (MAY)
- CG-60, USS Normandy (NORVA)
- CG-61, USS Monterey (NORVA)
- CG-64, USS Gettysburg (MAY)
- CG-66, USS Hue City (MAY)
- CG-68, USS Anzio (NORVA)
- CG-69, USS Vicksburg (MAY)
- CG-71, USS Cape St. George (NORVA)
- CG-72, USS Vella Gulf (NORVA)

• **OLIVER HAZARD PERRY CLASS**

- FFG-8, USS McInerney (May)
- FFG-28, USS Boone (May)
- FFG-36, USS Underwood (May)
- FFG-39, USS Doyle (May)
- FFG-40, USS Halyburton (May)
- FFG-45, USS DeWert (May)
- FFG-47, USS Nicholas (NorVa)
- FFG-49, USS Robert G. Bradley (May)
- FFG-50, USS Taylor (May)
- FFG-52, USS Carr (NorVa)
- FFG-55, USS Elrod (NorVa)
- FFG-56, USS Simpson (May)

- FFG-58, USS Samuel B. Roberts (May)
- FFG-59, USS Kauffman (NorVa)

• **ARLEIGH BURKE CLASS**

- DDG-51, USS Arleigh Burke (NORVA)
- DDG-52, USS Barry (NORVA)
- DDG-55, USS Stout (NORVA)
- DDG-57, USS Mitscher (NORVA)
- DDG-58, USS Laboon (NORVA)
- DDG-61, USS Ramage (NORVA)
- DDG-64, USS Carney (MAY)
- DDG-66, USS Gonzales (NORVA)
- DDG-67, USS Cole (PASC)
- DDG-68, USS The Sullivans (MAY)
- DDG-71, USS Ross (NORVA)
- **DDG-72, USS Mahan** (NORVA)**
- **DDG-74, USS McFaul** (NORVA)**
- **DDG-75, USS Donald Cook** (NORVA)**
- **DDG-78, USS Porter** (NORVA)**
- **DDG-79, USS Oscar Austin** (NORVA)**
- **DDG-80, USS Roosevelt** (MAY)**
- **DDG-81, USS Winston S. Churchill ** (NORVA)**
- **DDG-84, USS Bulkeley ** (NORVA)**
- **DDG-87, USS Mason ** (NORVA)**

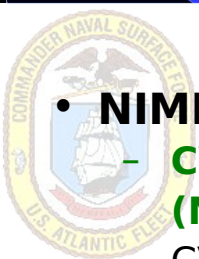
**** Completed by SY during Construction**

**** Completed by SY**

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ATLANTIC FLEET - SHIPS with SCBA Installed

• NIMITZ CLASS

- **CVN-69, USS Dwight D. Eisenhower** (NorVa)**
- CVN-71, USS Theodore Roosevelt (NorVa)
- CVN-73, USS George Washington (NorVa)
- **CVN-75, USS Harry S. Truman** (NorVa)**
- **CVN-76, USS Ronald Reagan** (NorVa)**

• KITTY HAWK CLASS

- CV-67, USS John F. Kennedy (May)

• ENTERPRISE CLASS

- CVN-65, USS Enterprise (NorVa)

• WASP CLASS

- LHD-1, USS Wasp (NorVa)
- LHD-3, USS Kearsarge (NorVa)
- **LHD-7, USS Iwo Jima ** (NorVa)**

• TARAWA CLASS

- LHA-2, USS Saipan (NorVa)
- LHA-4, USS Nassau (NorVa)

• SAFEGUARD CLASS

- ARS-51, USS Grasp (NorVa)
- ARS-53, USS Grapple (NorVa)

• AVENGER CLASS

- MCM-3, USS Sentry (Ingleside, TX)
- MCM-5, USS Guardian (Sasebo, Japan)
- MCM-6, USS Devastator (Ingleside, TX)
- MCM-8, USS Scout (Ingleside, TX)

• WHIDBEY ISLAND CLASS

- LSD-44, USS Gunston Hall (NorVa)
- LSD-46, USS Tortuga (NorVa)
- LSD-48, USS Ashland (NorVa)
- LSD-51, USS Oak Hill (NorVa)

• AUSTIN CLASS (**SY Installed**)

- **LPD-13, USS Nashville (NorVa)**

**** Completed by SY during Construction**

**** Completed by SY**

PACIFIC FLEET SURFACE COMBATANTS with SCBA

• TICONDEROGA CLASS

- CG-49, USS Vincennes (Yoko)
- CG-52, USS Bunker Hill (San Diego)
- CG-53, USS Mobile Bay (San Diego)
- CG-54, USS Antietam (San Diego)
- CG-57, USS Lake Champlain (San Diego)
- CG-59, USS Princeton (San Diego)
- CG-62, USS Chancellorsville (Pearl)
- CG-63, USS Cowpens (Yoko)
- CG-65, USS Chosin (Pearl)
- CG-67, USS Shiloh (San Diego)
- CG-70, USS Lake Erie (Pearl)
- CG-73, USS Port Royal (Pearl)

• ARLEIGH BURKE CLASS

- DDG-53, USS John Paul Jones (San Diego)
- DDG-54, USS Curtis Wilbur (Yoko)
- DDG-56, USS John S. McCain (Yoko)
- DDG-59, USS Russell (Pearl)
- DDG-60, USS Paul Hamilton (Pearl)
- DDG-62, USS Fitzgerald (San Diego)
- DDG-63, USS Stethem (San Diego)
- DDG-65, USS Benfold (San Diego)
- DDG-69, USS Milius (San Diego)
- DDG-70, USS Hopper (Pearl)

• ARLEIGH BURKE CLASS (Continued)

- DDG-73, USS Decatur** (San Diego)
- DDG-76, USS Higgins** (San Diego)
- DDG-77, USS O'Kane** (Pearl)
- DDG-82, USS Lassen** (San Diego)
- DDG-83, USS Howard** (San Diego)
- DDG-85, USS McCampbell** (San Diego)
- DDG-86, USS Shoup** (Everett)
- DDG-88, USS Preble** (San Diego)
- DDG-89, USS Mustin** (San Diego)
- DDG-90, USS Chafee** (Pearl)
- DDG-91, USS Pickney** (San Diego)

• OLIVER HAZARD PERRY CLASS

- FFG-43, USS Thach (San Diego)
- FFG-48, USS Vandergrift (Yoko)
- FFG-54, USS Ford (Everett)
- FFG-60, USS Rodney M. Davis (Everett)
- FFG-61, USS Ingraham (Everett)



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PACIFIC FLEET - SHIPS with SCBA Installed



- **NIMITZ CLASS**

- **CVN-68, USS Nimitz*** (San Diego)**
- CVN-70, USS Carl Vinson (Bremerton)
- CVN-72, USS Abraham Lincoln (Bremerton)
- CVN-74, USS John C. Stennis (San Diego)

- **KITTY HAWK CLASS**

- CV-63, USS Kitty Hawk (Yoko)

- **TARAWA CLASS**

- LHA-1, USS Tarawa (San Diego)
- LHA-3, USS Belleau Wood (San Diego)
- LHA-5, USS Peleliu (San Diego)

- **SAFEGUARD CLASS**

- ARS-50, USS Safeguard (Sasebo)
- ARS-52, USS Salvor (Pearl)

- **WHIDBEY ISLAND CLASS**

- LSD-42, USS Germantown (San Diego)
- LSD-45, USS Comstock (San Diego)
- LSD-47, USS Rushmore (San Diego)
- LSD-49, USS Harpers Ferry (Sasebo)

- **WASP CLASS**

- LHD-2, USS Essex (Sasebo)
- LHD-6, USS Bonhomme Richard (SDGO)

- **AUSTIN CLASS (SY Installed)**

- **LPD-7, USS Cleveland (San Diego)**
- **LPD-8, USS Dubuque (San Diego)**
- **LPD-9, USS Denver (San Diego)**

* Work currently in progress

** Completed by SY during Construction

*** Completed

SCBA SHIPALTS

CLASS	ALT NUM	REV	ALT BRIEF
AGF 0000	05240K	00	SCBA HP AIR MODIFICATION
AGF 0000	05241K	00	SCBA AND LOCKER INSTALLATION
AOE 0001	00877K	00	SCBA HP AIR MODIFICATION
AOE 0001	00878K	00	SCBA AND LOCKER INSTALLATION
ARS 0050	01154K	00	SCBA AND LOCKER INSTALLATION
ARS 0050	01155K	00	SCBA HP AIR MODIFICATION
AS 0039	02558K	00	SCBA HP AIR MODIFICATION
AS 0039	02559K	00	SCBA AND LOCKER INSTALLATION
CG 0047	00583K	00	SCBA AND LOCKER INSTALLATION
CG 0047	00584K	00	SCBA HP AIR MODIFICATIONS
CV-63, 64, 67	08761K	00	SELF-CONT BREATHING APP (SCBA)
CV-63, 64, 67	08802K	02	SCBA INSTALL IN MACHY SPACES
CVN 0065	08762K	00	SELF-CONT BREATHING APP (SCBA)
CVN 0065	08803K	00	SCBA INSTALL IN MACHY SPACES
CVN 0068	08588K	00	SCBA AND LOCKER INSTALLATION
CVN 0068	08589K	00	SCBA HP AIR MODIFICATIONS
CVN 0068	08803K	02	SCBA INSTALL IN MACHY SPACES
DDG 0051	00294K	00	SCBA AND LOCKER INSTALLATION
DDG 0051	00295K	00	SCBA HP AIR MODS

CLASS	ALT NUM	REV	ALT BRIEF
FFG 0007	00438K	00	SCBA AND LOCKER INSTALLATION
FFG 0007	00439K	00	SCBA HP AIR MODIFICATIONS
LCC 0019	01436K	00	SCBA AND LOCKER INSTALLATION
LCC 0019	01437K	00	SCBA HP AIR MODIFICATION
LHA 0001	01055K	00	SCBA HP AIR MODIFICATIONS
LHA 0001	01056K	00	SCBA AND LOCKER INSTALLATION
LHD 1-4	00315K	00	SCBA HP AIR MODIFICATIONS
LHD 1-4	00316K	00	SCBA & LOCKER INSTALLATION
LHD 5-7	03122K	00	SCBA & LOCKER INSTALLATION
LHD 5-7	03123K	00	SCBA HP AIR MODIFICATIONS
LPD 0004	01252K	00	SCBA HP AIR MODIFICATION
LPD 0004	01253K	00	SCBA AND LOCKER INSTALLATION
LSD 0041	01287K	00	SCBA HP AIR MODIFICATIONS
LSD 0041	01288K	00	SCBA & LOCKER INSTALLATION
LSD 0049	05142K	00	SCBA HP AIR MODIFICATIONS
LSD 0049	05143K	00	SCBA & LOCKER INSTALLATION
SSN 0021	04151K	00	REPLACE OBA WITH SCBA
MCM 0001	00309K	00	SCBA & LOCKER INSTALLATION
MHC 0051	00156K	00	SCBA & LOCKER INSTALLATION